GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 3093
TO BE ANSWERED ON 19.03.2026

Measures for pollution control

3093. SMT. JEBI MATHER HISHAM:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether Government has noted the international expert concerns at World Economic Forum (WEF), highlighting India's pollution crisis over development gains;
(b) if so, the measures taken to address pollution challenges beyond the National Clean Air Programme;
(c) the State/UT-wise progress of pollution reduction, $PM_{2.5}$ levels vs WHO standards and multi-pollutant targets;
(d) whether coordinated action plans exist for checking crop residue burning, vehicle emissions, industrial effluents and thermal power pollution and if so, the details thereof; and
(e) the details of budget allocated, funds released to States/UTs and actual utilization thereof for pollution control during the last five years?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a), (b) and (d): Air pollution is a collective result of multiple factors including geographical factors, anthropogenic activities in the high-density populated areas, arising from various sectors viz. Vehicular Pollution, Industrial Pollution, Dust from Construction and Demolition activities, Road and Open Areas Dust, Biomass Burning and Solid Waste burning and air pollution from dispersed sources, etc.

Measures taken by the Government to control air pollution, in addition to NCAP including measures undertaken for the control of crop residue burning Vehicular emissions, Industrial emissions and thermal power plants, are enclosed at **Annexure-I**.

(c): World Health Organisation's Air Quality Guidelines serve as only a guidance document and these are recommended values for air pollutants to help countries achieve air quality. However, countries prepare their air quality standards based on geography, environmental factors, background levels, socio-economic status and national circumstances.

Ministry of Environment, Forest and Climate Change has notified the National Ambient Air Quality Standards (NAAQS) for 12 air pollutants including PM_{10} and $PM_{2.5}$ to safeguard public health and environment quality.

$PM_{2.5,}$ being a subset of PM_{10}, is inherently addressed through the broader regulatory

framework and implementation strategy aimed at reducing particulate matter levels overall. A wide range of targeted actions to address all sources of $PM_{2.5.}$

Government has taken several initiatives to address pollution from $PM_{2.5}$ levels inter-alia include leapfrogging from BS-IV to BS-VI fuel and vehicle norms effective from 1st April 2020, promotion of e-mobility and alternate fuels, voluntary vehicle scrapping policy through Voluntary Vehicle-Fleet Modernization Program (VVMP), implementation of Extended Producer Responsibility (EPR) framework for End-of- Life Vehicles (ELVs).

The focused and coordinated actions by 130 cities under NCAP have shown positive results with 103 cities showing reduction in PM_{10} concentration in 2024-25 with respect to 2017-18, 64 cities have shown reduction in PM_{10} levels by more than 20% with respect to base year 2017-18 and 25 of these cities have achieved a reduction of more than 40%. A total of 22 Cities have met National Ambient Air Quality Standards (NAAQS) and have PM_{10} Concentrations less than 60 $\mu g/m^3$.

Further, out of the 130 cities covered under NCAP, 40 cities have shown a reduction in $PM_{2.5}$ levels in 2024 as compared to 2019; 56 cities have met the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ (annual standard: 40 $\mu g/m^3$) in 2024.

State/UT wise achievement in terms of PM_{10} reduction is at **Annexure-II.**

(e): Under NCAP and 15th Financial Commission (XVFC) air quality grants, Rs. 20,130 has been allocated and performance-based incentive grant of Rs. 13,865.53 crore has been provided from FY 2019-20 to FY 2025-26, as a critical gap funding to 130 cities across 24 States/UTs for implementing activities to control air pollution. Out of the total funds provided, an amount of Rs. 10,602.20 crore (76%) has been utilized.

Annexure-I

Measures taken to control Air Pollution

1.0 Measures for control of vehicular emissions:

- Leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi and from 1st April, 2020 for the rest of the country.
- Introduction of BS VI compliant vehicles across the country since April, 2020.
- Installation of Vapour Recovery System (VRS) in new and existing petrol pumps selling gasoline >100kl per month in million plus cities and those selling >300kl per month in cities with population between 1 lakh to 1 million to control vehicular refuelling emissions.
- Promotion of electric vehicles through Electric Mobility Promotion Scheme 2024 (EMPS 2024) scheme of Ministry of Heavy Industries, Government of India
- Sustainable Alternative Towards Affordable Transportation (SATAT) has been launched as an initiative to set up Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.
- Establishment of charging infrastructure for E-vehicles as per guidelines issued by Ministry of Power.
- Synchronization in traffic movements/Introduction of Intelligent Traffic System (ITS) for lane-driving.
- Ministry of Road Transport & Highways (MoRTH) has issued notifications on the establishment of Registered Vehicle Scrapping Facility (RVSFs) and Automated Testing System (ATS) to create an enabling framework for implementation of Vehicle Scrapping Policy.
- Improving and Strengthening of Pollution Under Control (PUC) Certificate System programme across the country by MoRTH.

2.0 Measures for control of industrial emission:

- For strengthening monitoring mechanism and effective compliance through self-regulatory mechanism, CPCB directed all 17 categories of highly polluting industries to install OCEMS. There are 4,322 units under 17 categories of industries, out of which 3,744 units have installed OCEMS and closure directions are still in-force for 578 units.
- Direction issued on 09.10.2025 to SPCBs/ PCCs of Delhi NCR for ensuring OCEMS and PTZ installation in Textile, food processing and metal industries and connectivity to CPCB server.
- CPCB vide direction dated 12.02.2025 classified a total of 419 sectors and sub-sectors in Red (125), Orange (137), Green (94), White (54) and Blue (9).
- The Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India notifies industry specific discharge standards under Schedule-I: 'Standards for Emission or Discharge of Environmental Pollutants from various Industries' of Environment Protection Act, 1986. So far, industry specific environmental standards, for 79 industrial sectors (including emission standards for 56 sectors) have been notified. Industrial sectors, for which specific standards are not available, general standards as notified under Schedule-VI of Environment Protection Rules, 1986 shall be applicable.
- Ban on use of imported pet coke in the country since July 26, 2018, with exception for use in permitted processes.

- CPCB has come out with System and Procedure for Emission Compliance Testing of Retro-fit Emission Control Devices (RECD) for Diesel Power Generating Set Engines up to Gross Mechanical Power 800 kW.
- In 2022, CPCB mandated new brick kilns must use zig-zag technology, vertical shaft, or piped natural gas, and adhere to specific standards. Also, Existing kilns must also convert to these technologies or use approved fuels.
- In 2023, CPCB introduced stricter emission standards (CPCB IV+) for diesel generators (DG sets) up to 800 kW, mandating dual-fuel systems (70% gas, 30% diesel) where gas infrastructure is available and requiring Retro-fit Emission Control Devices (RECD) with a minimum PM capturing efficiency of 70%.

3.0 C&D Waste & MSW

- CPCB published following guidelines (available on website of CPCB)
    1. Environmental Management of Construction & Demolition (C & D) Wastes' in March, 2017
    2. 'Guidelines on DUST Mitigation Measures in Handling Construction Material & C&D Wastes' in November 2017.
    3. Disposal of legacy waste by bio-mining and bio-remediation to address open burning and landfill fires
- CPCB has issued direction to all SPCBs/ PCCs for deployment of Anti-Smog Gun and implementation of adequate dust mitigation measures at construction projects/ sites having area more than 20,000 sq. meters. CPCB has issued guidelines/ mechanism for use of anti-smog guns in Construction and Demolition projects.
- CPCB issued directions to all SPCBs/PCCs for enforcement of provision of SWM Rules-2016 regarding bio-mining of legacy waste during Jan-2021.
- CPCB issued directions to all SPCBs/PCCs for implementation of SWM Rules-2016 regarding fire incidents at MSW dumpsites during May 2022.

4.0 Air Quality Monitoring and Network

- National Air Quality Index (AQI) was launched in 2015. Information is being disseminated to public through daily air quality bulletins.
- Ambient Air Quality Network: The country has a network of 1601 ambient air quality monitoring stations (566 continuous and 1035 manual) covering 583 cities in 28 states and 7 UTs.
- A centralized air quality monitoring portal is operated by Central Pollution Control Board wherein, tracking of various information such as hourly PM concentrations, Live Air Quality Data of Monitoring stations and Live Air Quality Index is being carried out.
- Daily AQI Bulletin is published on CPCB website giving AQI information for cities across India.
- CPCB has developed a mobile app i.e. SAMEER, where Real-time Ambient air quality data of various parameters including AQI is also given. Sameer app also facilitates the public in lodging of air pollution related complaints in NCR region and such complaints are assigned to various local agencies.

Agriculture Stubble Burning

- The government has taken various measures to eliminate paddy stubble burning. Under the Crop Residue Management (CRM) scheme, more than 3.50 lakh farm machinery units have been distributed to individual farmers in the priority states of Punjab, Haryana, and Uttar Pradesh (UP).

- Massive information and communication activities are being conducted by the State Governments / Institution of ICAR Institutions to create awareness among farmers about the use of machines for CRM, thereby preventing paddy stubble burning.

- A comprehensive framework for the prevention and management of paddy straw has been developed by the Commission for Air Quality Management (CAQM) in the National Capital Region (NCR) and adjoining areas, followed by year-wise, State specific Action plans for Punjab, Haryana, and UP to address paddy stubble burning.

- CAQM has issued directives and advisories to establish an ecosystem and robust supply chain mechanism to boost ex-situ utilisation of straw for tackling the problem of stubble burning and mandated 11 thermal power plants located within 300 km of Delhi for co-firing of biomass pellets (up to 5 to 10%).

- CAQM has directed the State Governments of Punjab and Haryana to mandate the use of paddy straw-based biomass pellets/ briquettes in all brick kilns located in the districts beyond NCR, as one of the means towards the elimination of the practice of open paddy stubble burning, aiming for 50% co-firing of paddy straw-based pellets/briquettes.

- CAQM vide Direction No. 96 has directed the states concerned to implement their respective Action Plans to abate burning of wheat straw, with specific facilitative measures to ensure viable alternatives.

Thermal Power Plants

- Government revised the emission norms in December, 2015 for Thermal Power Plants for Particulate Matter (PM), making it more stringent from earlier standards that were notified in 1989.
- Government introduced emission norms for controlling Oxides of Nitrogen (NOx) and Sulphur Dioxide (SO2) from thermal power plants in December, 2015.
- The Ministry of Power has issued a Comprehensive Policy for Co-firing of Biomass Pellets in coal based Thermal Power Plants on 07.11.2025, inter alia, specifying that thermal power plants in regions other than NCR shall, on an annual basis, use 5% blend (by weight) either from biomass pellets and/or torrefied charcoal made from municipal solid waste along with coal with effect from FY 2025-26.
- CAQM has issued directions for co-firing of 5-10% biomass with coal in thermal power plants located within 300 kms of Delhi, and, in captive power plants of industrial units located in NCR.

Annexure-II

State/UT wise Air Quality Improvement in 130 Cities under NCAP

S. No.	Improvement in PM_{10} in 2024-25 w.r.t FY 2017-18 (%)	No. of Cities	Cities
1	Above 40	25	Gujarat (2): Rajkot, Surat; Himachal Pradesh (1): Nalagarh; Jammu & Kashmir (1): Srinagar; Jharkhand (1): Dhanbad; Maharashtra (3): Badlapur, Greater Mumbai, Ulhasnagar; Meghalaya (1): Byrnihat; Nagaland (1): Kohima; Punjab (2): Amritsar, Jalandhar; Tamil Nadu (1): Tuticorin; Uttar Pradesh (11): Agra, Allahabad, Bareilly, Firozabad, Ghaziabad, Jhansi, Kanpur, Lucknow, Moradabad, Raebareli, Varanasi; Uttarakhand (1): Dehradun
2	20-40	39	Andhra Pradesh (6): Ananthpur, Kadapa, Kurnool, Nellore, Rajahmundry, Vijayawada; Assam (2): Nagaon, Sivasagar; Gujarat (2): Ahmedabad, Vadodara; Haryana (1): Faridabad; Himachal Pradesh (4): Baddi, Kala Amb, Parwanoo, Sunder Nagar; Jammu & Kashmir (1): Jammu; Jharkhand (1): Ranchi; Karnataka (3): Bengaluru, Devanagere, Hubli-Dharwad; Madhya Pradesh (1): Jabalpur; Maharashtra (3): Akola, Amravati; Thane Nagaland (1): Dimapur; Punjab (4): Dera Baba Nanak, Khanna, Ludhiana, Naya Nangal; Rajasthan (2): Alwar, Jodhpur; Tamil Nadu (1): Trichy; Telangana (1): Hyderabad; Uttar Pradesh (3): Gajraula, Gorakhpur, Noida; Uttarakhand (1): Rishikesh; West Bengal (2): Howrah, Kolkata
3	Above 10 to less than 20	20	Andhra Pradesh (3): Chittoor, Eluru, Ongole; Bihar (1): Muzaffarpur; Chhattisgarh (1): Durg-Bhilainagar; Delhi (1): Delhi; Madhya Pradesh (1): Ujjain; Maharashtra (2): Latur, Sangli; Punjab (2): Mandi-Gobindgarh, Patiala; Rajasthan (2): Jaipur, Kota; Tamil Nadu (2): Chennai, Madurai; Uttar Pradesh (3): Anpara, Khurja, Meerut; West Bengal (2): Asansol, Haldia
4	Less than 10	19	Andhra Pradesh (1): Guntur; Assam (2): Guwahati, Nalbari; Bihar (1): Patna; Himachal Pradesh (1): Paonta Sahib; Karnataka (1): Gulbarga/Kalaburgi; Madhya Pradesh (2): Bhopal, Gwalior; Maharashtra (7): Chandrapur, Jalna, Kolhapur, Nagpur, Nashik, Pune, Vasai-Virar; Odisha (1): Cuttack; Rajasthan (1): Udaipur; Uttarakhand (1): Kashipur; West Bengal (1): Durgapur
5	Nil	27	Andhra Pradesh (3): Srikakulam, Visakhapatnam, Vizianagaram; Assam (1): Silchar; Bihar (1): Gaya; Chandigarh (1): Chandigarh; Chhattisgarh (2): Korba, Raipur; Himachal Pradesh (1): Damtal; Jharkhand (1): Jamshedpur; Madhya Pradesh (3): Dewas, Indore, Sagar; Maharashtra (4): Aurangabad, Jalgaon, Navi Mumbai, Solapur; Odisha (6): Angul, Balasore, Bhubaneswar, Kalinga Nagar, Rourkela, Talcher; Punjab (1): Dera Bassi; Telangana (2): Nalgonda, Sangareddy; West Bengal (1): Barrackpore